

Work Order ID 126399-2

Thursday, November 06, 2014 10:58:20 AM

Page 1

Item ID: 647.4312

Revision ID:

Item Name: LH Upper Strut

Start Date: 11/6/2014 Start Qty: 16.00

Required Date: 11/6/2014 Req'd Qty: 16.00

Reference:

Approvals:

Process Plan: MC5

Date: 11-11-06

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

\*NR1\*

Stop

\*NR2\*

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

647.4300

A

110

0.00

\*110\*

Waterjet

FLOW CNC Waterjet

Memo

0.00

1-Cut 6474300 plate 3.928X1.985 as per Dwg

Dwg Rev: A

Prog Rev: A

2-Deburr if necessary

120

QC2- Inspect parts off machine FAI/FAIB

0.00

\*120\*

QC

Quality Control

Memo

0.00

\*126399\*

\*N900040100\*

Setup Start

\*NS1\*

Stop

\*NS2\*

Cust Item ID:

Customer:

(14) B126399  
REV-A Accept

\*16\*

\*16\*

RUSH

SPLIT

647.4312

20

Dec 14/11/06

20

Dec 14/11/06

# Work Order ID 126399

Thursday, November 06, 2014 10:58:20 AM

**\*126399\***

Page 2

Item ID: 647.4312

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Stop

**\*NS2\***

Item Name: LH Upper Strut

Start Date: 11/6/2014 Start Qty: 16.00

**\*16\***

Cust Item ID:

Required Date: 11/6/2014 Req'd Qty: 16.00

**\*16\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

**\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop

**\*NR2\***

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

130

QC8- Inspect parts - second check

0.00

**\*130\***

QC

Memo

0.00

Quality Control

NOV 07 2014

140

0.00

**\*140\***

Small Fab

Memo

0.00

Small Fab

1- Fabricate tube as per dwg by cutting (22.00") one end 27.7 degree and other end punch, bend and drill hole as per dwg

20 EL/MAL 14/11/10

150

QC5- Inspect part completeness to step on W/O

0.00

**\*150\***

QC

Memo

0.00

Quality Control

20 04-11-10

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Page 3

**DAS  
50  
9-89**

0-55  
30  
0-55

14-11-12

# Work Order ID 126399

Thursday, November 06, 2014 10:58:20 AM

**\*126399\***

Page 4

Item ID: 647.4312 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: LH Upper Strut  
 Start Date: 11/6/2014 Start Qty: 16.00 **\*16\*** Cust Item ID:  
 Required Date: 11/6/2014 Req'd Qty: 16.00 **\*16\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190		0.00							
<b>*190*</b>									
SprayPaint	Memo	0.00							
Spray Painting	Prime as per dwg (see note 4)								
	Batch: <u>127082</u>								
200	QC14- Inspect Spray Paint	0.00							DAS 38 9-89
<b>*200*</b>									
QC	Memo	0.00							
Quality Control									NOV 18 2014
210		0.00							
<b>*210*</b>									
Packaging	Memo	0.00							
Packaging	***IDENTIFY AS PER APICAL MPP-120 BY STAMPING THE P# AND REV***								

**Work Order ID 126399****\*126399\***

Page 5

Item ID: 647.4312

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Item Name: LH Upper Strut

Stop **\*NS2\***

Start Date: 11/6/2014 Start Qty: 16.00

**\*16\***

Cust Item ID:

Required Date: 11/6/2014 Req'd Qty: 16.00

**\*16\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***  
Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220	QC21- Final Inspection - Work Order Release	0.00							
<b>*220*</b>									
QC	Memo	0.00							
Quality Control									

14/11/18 *[Signature]*  
ME  
14-11-18

# Picklist Print

Thursday, November 06, 2014 10:58:23 AM

Page 1

Work Order ID: 126399

**\*126399\***

Parent Item: 647.4312

**\*647 4312\***

Parent Item Name: LH Upper Strut

Start Date: 11/6/2014

Required Date: 11/6/2014

Start Qty: 16.00

Required Qty: 16.00

Comments: IPP REV:A 12.10.26 NEW ISSUE DD VERF:JLM IPP  
REV:B 14.11.06 CHG MATERIAL TO S.S. DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

M304S16GA

Purchased

No

sf

473.5356

1

**\*M304S16GA\***

**\*\***

DL 14/11/14

304/316 Sheet .063

Location

Loc Qty

Loc Code

MAT020

360.1356

M127821

71.317

M129449

192.8186

M130745

96

TPI

113.4

M129545

113.4

M304TR0.500W.049

Purchased

No

f

189.3515

31

**\*M304TR0 500W 049\***

**\*\***

EL 14/11/14

304 RD Tube .500 x .049W

Location

Loc Qty

Loc Code

MAT017

189.3515

M127937

168.548

M128833

20.8035

36'

# APICAL

INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO. 04048

SHEET 1 OF 1

DWG NO. 647.4300

REV: N/C

PREPARED  
BY

D. PETERS

DATE: 08/12/13

EFFECT ON DWG  
☒ INC. ☐ UNINC.

DWG TITLE: STRUT

APPROVED BY:

ENGR

MFG

QC

EFF:

NEXT ORDER

TRANSACTION CODES (TC):  
A-ADD C-CREATE  
R-REVISE D-DELETE

REASON: MARKED INSPECTION DIMENSIONS

ECR

NONE

126399 MJS  
14-11-06

DOCUMENTS EFFECTED:

☐ RFMS ☐ MDL ☐ INSTALL INSTRU ☐ ICA ☐ BOM

CHANGE CATEGORY  
☐ MAJOR ☒ MINOR

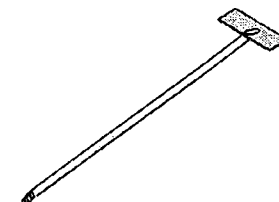
DER REVIEW REQUIRED  
☐ YES ☒ NO

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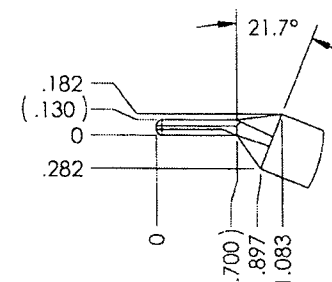
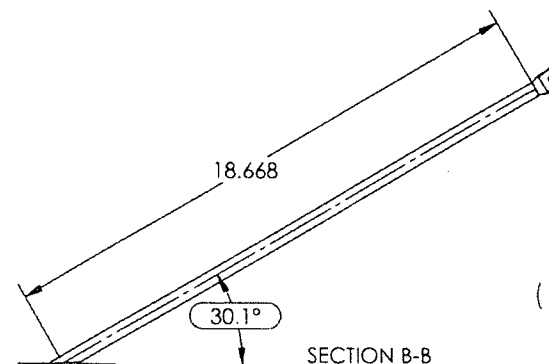
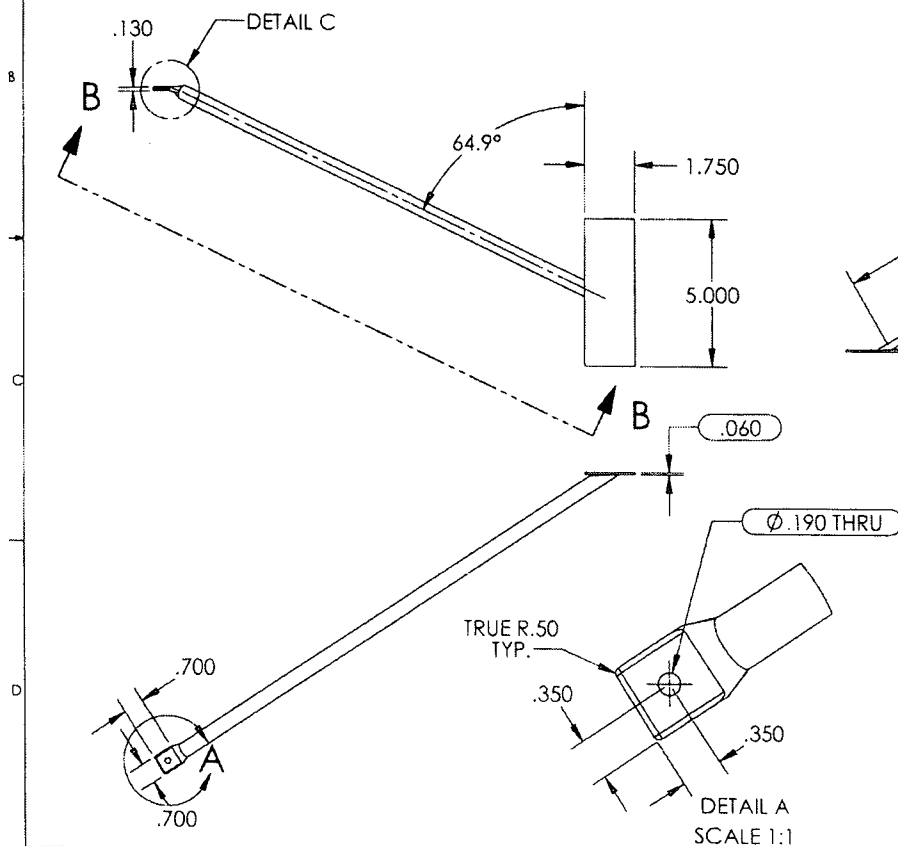
# NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: 4130 STEEL PER AMS-S-18729, .06" THK.
2. MATERIAL: 4130 STEEL PER AMS-S-18729, .13" THK.
3. MATERIAL: 4130 STEEL PER AMS-T-6736, .50" OD, .049" WALL THK.
4. FINISH: PRIME IAW MIL-P-23377J TYPE I CLASS N; 1-2 MIL MAX
5. DEBURR AND BREAK ALL SHARP EDGES
6. IDENTIFY IAW MPP-120.
7. WELD IAW MIL-STD-2219. TIG WELD WITH FILLER ROD.

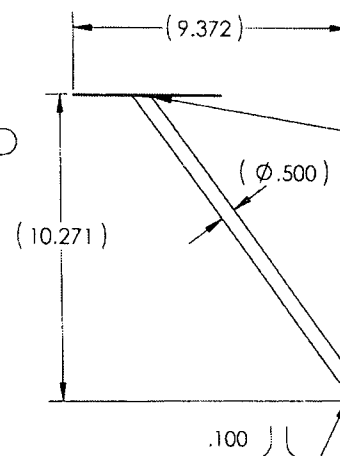
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	LAST PROTOTYPE REVISION: PR1		
N/C	INITIAL RELEASE	10/07/09	P. BRAVO
A	INCORPORATED ECN 04048	08/12/13	P. BRAVO



647.4310 SHOWN  
647.4311 OPPOSITE



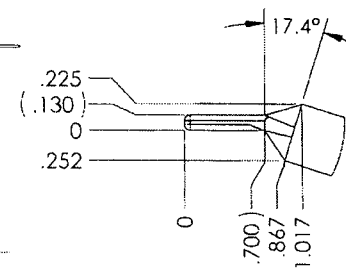
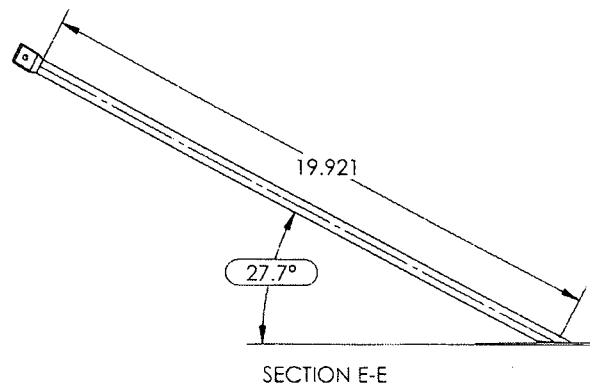
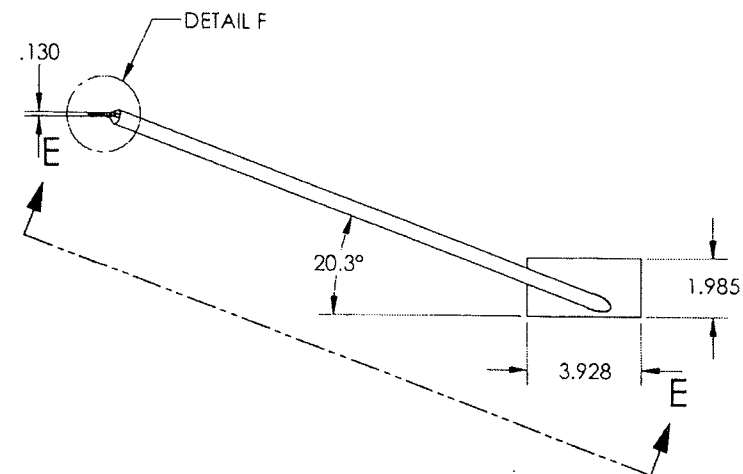
DETAIL C  
SCALE 1:1  
SHOWN NORMAL TO SIDE OF TAB



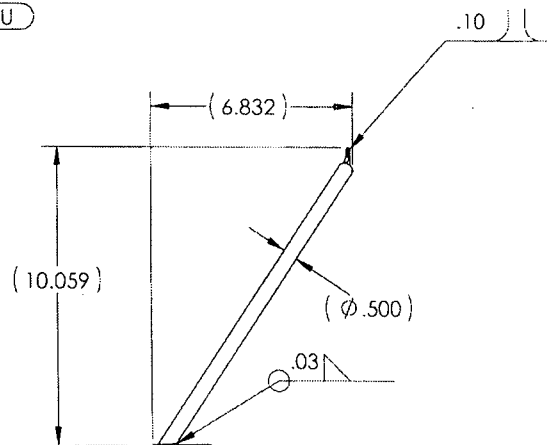
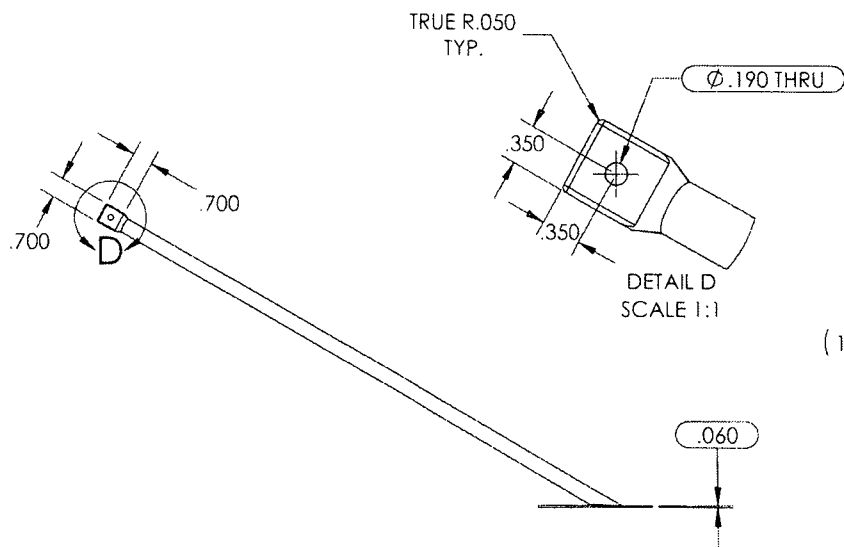
			647.4313	UH UPPER STRUT	△△△△	△△△△
			647.4312	LH UPPER STRUT	△△△△	△△△△
			647.4311	RL LOWER STRUT	△△△△	△△△△
			647.4310	LH LOWER STRUT	△△△△	△△△△
		IND B	PART #	DESCRIPTION	MAT'L	SPEC.
QTY			PARTS LIST			
NEXT ASSY (S)			APICAL INDUSTRIES			
647.3700			2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300			
OPERATIONAL DATE			DATE			
DESIGNED BY			DESIGNED BY			
DRAWN BY			DRAWN BY			
CHECKED BY			CHECKED BY			
APPROVED BY			APPROVED BY			
CONTRACT NO.			CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED			UNLESS OTHERWISE SPECIFIED			
DIMENSIONS ARE IN INCHES			DIMENSIONS ARE IN INCHES			
TOLERANCES ARE:			TOLERANCES ARE:			
STRAIGHT DIMENSIONS:			STRAIGHT DIMENSIONS:			
3 PLACE DECIMALS:			3 PLACE DECIMALS:			
ANGLES: ± 5°			ANGLES: ± 5°			
SCALE: NONE			SCALE: NONE			
REV. NO.			647.4300		REV. A	
SCALE: NONE			SHEET 1 OF 2		SHEET 1 OF 2	



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DETAIL F  
SCALE 1:1  
SHOWN NORMAL TO SIDE OF TAB



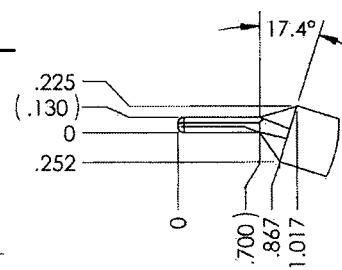
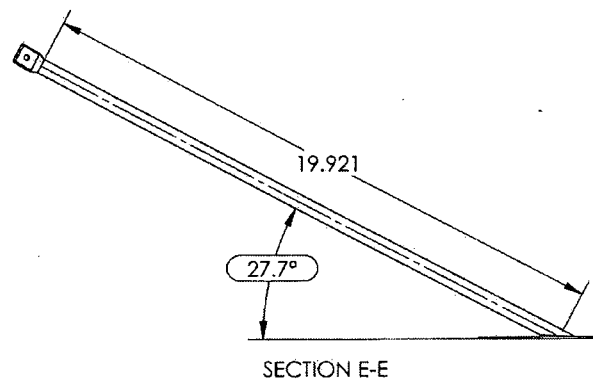
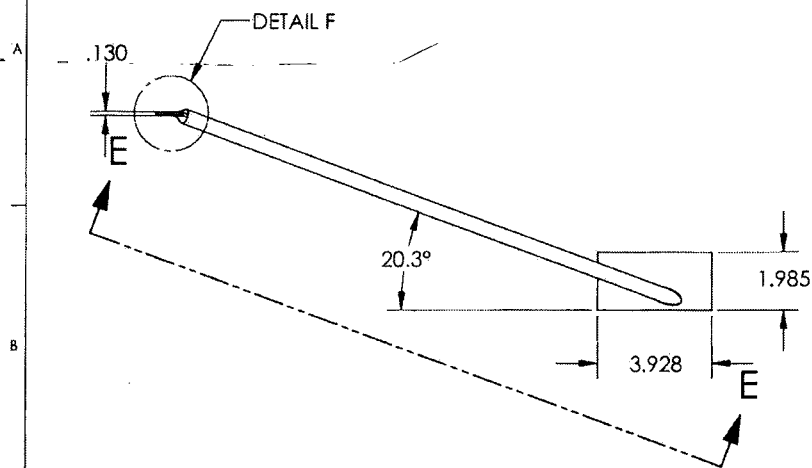
647.4312 SHOWN  
647.4313 OPPOSITE

CHECKED DATE: 12/01/00 DRAWN BY: J. H. H. / J. H. H. DESIGNED BY: J. H. H. / J. H. H. DRAWING APPROVED: J. H. H. / J. H. H. CONTRACT NO.		<b>APICAL INDUSTRIES</b> 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-5612 (760) 724-5300	
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES ARE: FINISH DECIMALS & .005 ALL OTHERS .1"		<b>STRUT</b>	
ITEM: 647.4300 QTY: 1 SCALE: NONE	BAG: 100 647.4300	REV: A	SHEET: 2 OF 2

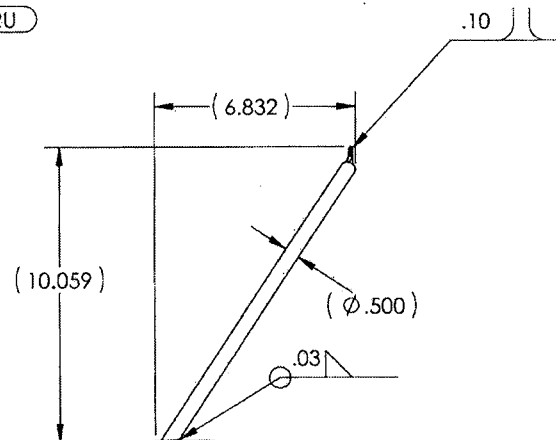
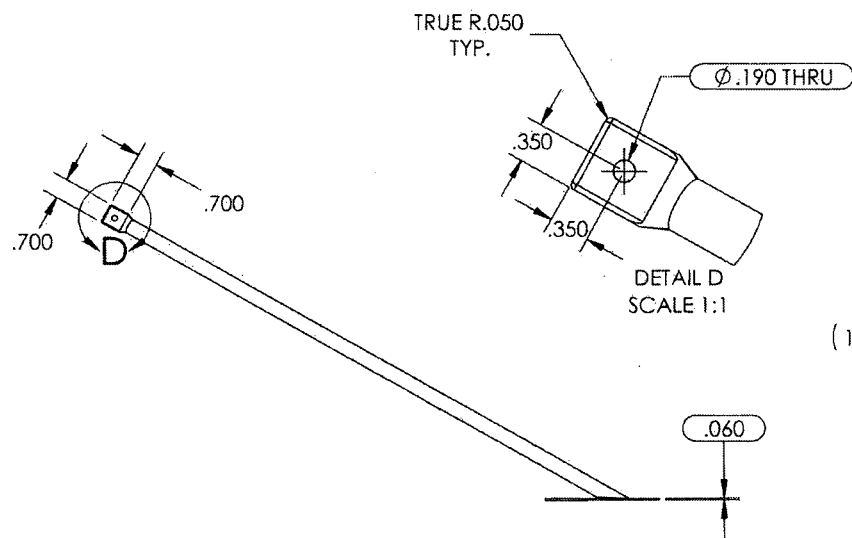




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DETAIL F  
SCALE 1:1  
SHOWN NORMAL TO SIDE OF TAB



ORIGINAL DATE: 10/01/09		APICAL INDUSTRIES	
DRAWN BY: R. POLANO	ENGINEER: D. BARRER	2608 TEMPLE HEIGHTS DR.	
DRAWING APPROVAL: P. BRAVO		OCEANSIDE, CA. 92056-3512 (760) 724-5300	
CONTRACT NO:		STRUT	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DECIMALS ± .01 2 PLACE DECIMALS ± .005 ANGLES ± .5°		REV: B	REV: A
SCALE: NONE		DWG. NO: 647.4300	SHEET: 2 OF 2

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------